



Dee Anne Ross DAREnergy Consulting

November 7, 2002

Bryan Alcorn
Bill Pennington
California Energy Commission
1516 Ninth St.
Sacramento, CA 95814

Re: Comments on the 2005 Energy Standards

Bryan and Bill,

As promised, here are my comments on the proposed standards.

- Proposed change to Section 10-109(b)1B.:

Comment: Change “and” to “or” in Residential and Nonresidential ACM Manual. Make the same change where this new phrase appears.

- Proposed change to delete 10-109(b)1.E.:

Comment: Don’t radiant barriers and gas heat pumps use factors? Possibly only delete the phrase “, when applied to the method’s outputs,”

- Proposed changes to Section 100:

Comment: Exception 1 to Section 100(a)—Change spelling of waved to waived.

Comment: Exception 1 to Section 100(e)2.B. lists sections that apply to buildings with no mechanical heating or cooling. Then Section 100(e)2.C. lists those that apply to semiconditioned and unconditioned. The sections are not consistent. I don’t know if that is intentional or not.

Comment: Section 100(e)5 lumps residential and nonresidential occupancies for outdoor lighting. That’s not a good idea. Most people don’t know that Sections 133 and 149 wouldn’t apply to residential. Separate them. Suggested change: Sections 119 and 133 apply to new outdoor lighting systems, and section 149 applies to alterations to outdoor lighting systems in nonresidential applications. Sections 119 and 150 apply to new outdoor lighting systems in a low-rise residential application.

- Proposed change to Section 101(a):

Comment: BATHROOM—This change is much too harsh given that my reading of the lighting changes in section 150. Those changes will prevent non-fluorescent as even a second light source and this would prevent non-fluorescent in a vanity area of bathrooms. That’s too big a change.

Comment: LIGHTING ZONE—The word “certain” doesn’t add anything and doesn’t sound like code language. Delete the word “certain” from phrase “that determines certain requirements for outdoor lighting...”

Comment: PARKING GARAGE—This definition is awkward and could also be misconstrued as applying to residences. Also I'm not sure if you mean for this to apply to store parking lots or a mechanic who has several vehicles parked. I think my language covers it if you only mean it to apply to parking garages and lots as a business. If I have that wrong, just don't include the part about charging for the parking. Suggest the following changes:

PARKING GARAGE is a building or structure for parking 10 or more vehicles, for which the operator of the vehicle is charged for parking. A parking garage consists of at least a roof over ~~the~~ parking area, ~~often with. It may have~~ walls on one or more sides. ~~It may have and~~ fences or rails in place of one or more walls. The structure has entrance(s) and exit(s), and includes areas for vehicle maneuvering to reach the parking spaces. If the roof of a parking structure is also used for parking, the section without an overhead roof is considered a parking lot instead of a parking garage.

PARKING LOT is an outdoor area, paved or unpaved, designed for or functioning as parking for 5 or more motor vehicles, for which the operator of the vehicle is charged for parking.

- Proposed change to Section 102:

Comment: To clarify language and potential misunderstandings, suggest these changes (also semi-colon separates two complete thoughts—if you really want to use it, keep it and add “TDV multipliers vary” after it:

Time Dependent Valuation (TDV) energy shall be used to compare proposed designs to their energy budget when using the performance compliance approach. TDV energy is calculated by multiplying the site Btu for each energy type times the TDV multiplier. TDV multipliers vary for each hour of the year and by energy type (electricity, natural gas or propane); by climate zone and by building type (low-rise residential or nonresidential, high-rise residential or hotel/motel). TDV multipliers are published by the CEC and are included with the nonresidential ACM Approval Manual for both residential and nonresidential compliance. When calculating source energy consumption, consumption of electricity, natural gas, fuel oil, and LPG shall be converted to Btu at the rates shown in Table 1-B.

Comment: Recommend adding TDV as a definition in Section 101(b).

- Proposed change to Section 150(h)3:

Comment: Please reconsider this change. Because builders might not install everything specified in the energy calculation, I'm concerned about this new limit. What if I specify low-E windows and clear windows are installed? What if I show TXV and it doesn't get installed? I don't know if the duct efficiency will factor in to the size as well, but I know of some consultants who specify tested leakage and there is no follow-through. This is a scary proposal. If a consultant gets dragged in to a lawsuit it can cost then \$10,000 to prove they were not the one at fault. There's got to be a better way.

- Proposed change to 151(b) to eliminate the details of the water heating calculations:

Comment: On first glance at the ACM manual, which I hadn't seen until Tuesday, the Standards and ACM seem to point to one another and neither has details.

- Proposed change to 151(d):

Comment: Delete the reference to 151(a)3. Subsection 3 includes both prescriptive and performance whereas 151(b) is only performance and is therefore adequate and more accurate. Second reference to 151(a) is fine.

- Proposed change to Section 151(f)3.C. Fenestration:

Comment: Change second sentence. "West-facing fenestration area includes skylights tilted to the west or tilted in any ~~other~~ direction when the at a pitch is of less than 1:12.

- Proposed change to Section 151(f)8.B.:

Comment: The phrase "controls . . . circulating pump when hot water is not required." is not clear enough. Does this mean demand control, time control, temperature control, time/temp control? Also clarify in ACM (if not already) because at present time some of these are a penalty and some result in credit.

Comment: There are two misspelled words "heating" and recirculating or recirculation or is this a new combo word?

Comment: Is it absolutely necessary to use the phrase "single water heater"? I don't know why, but this seems like it could cause problems.

- Proposed change to 151(f)10:

Comment: This is misleading and very awkwardly worded. Propose the following change:

Space conditioning ducts. All ~~supply~~ ducts shall either be in conditioned space or be insulated to a minimum installed level as specified in TABLE 151-B through 151-Z of R-4.2 and constructed to meet minimum mandatory requirements of Section 150(m). ~~Where TABLE 151-B through 1-Z16 require R-8 duct insulation all ducts outside of the insulated envelope shall be insulated to R-8.~~

Comment: If you make the change above, you also need to include Duct insulation in all of the tables, not just where R-8 is required, which I would recommend either way.

- Proposed changes to Alternative Component Package Tables:

Comment: Include duct insulation in every table.

Comment: Remove from DOMESTIC WATER-HEATING TYPE reference to Section 151(b)1 because that now says you have to use a computer program.

- Proposed change to Section 152(a)1.A. Additions:

Comment: I don't like the way it reads now ("up to 100 square feet shall not exceed 50 square feet"). I know what it means, but I suggest changing it back.

- Proposed change to Exception 2 to Section 152(a) greenhouse windows/skylights:

Comment: words "with the U-factor requirements in" are new but not underlined.

- Proposed changes to Section 152(b)

Comments: There are some strange strikeouts right before 1.B. and Exception to Section 152(b)1.A. had language added and removed that wasn't marked, specifically:

EXCEPTION to Section 152 (b) 1 A: Any dual-glazed greenhouse window and dual-glazed skylight installed as part of an alteration complies with the U-factor requirements in section 151(f)3A~~applicable to prescriptive alterations.~~

- Proposed changes to Section 152(b)1.A. Adding fenestration:

Comment: I'm trying to come up with an alternative, because restricting the amount of glazing to an amount that they may have exceeded before they began seems like overkill. As much as I'd love more Title 24 jobs, I think this is unreasonable. I came up with B below as a way to allow people to change one or two window sizes or add a sliding glass door without having to get a full Title 24 done.
How about:

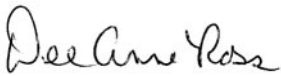
- A. Alterations that add fenestration area ~~to a building shall meet the be limited to a maximum 0.75~~ U-factor ~~requirements of section 151(f)3A, the total fenestration area requirements of section 151(f)3B~~ and the Solar Heat Gain Coefficient ~~requirements of section 151(f)4~~.

EXCEPTION to Section 152 (b) 1 A: Any dual-glazed greenhouse window and dual-glazed skylight installed as part of an alteration complies with the U-factor requirements in section 151(f)3A

NOTE: Fenestration products repaired or replaced, not as part of an alteration, need not comply with the U-factor and Solar Heat Gain Coefficient requirements applicable to alterations.

- B. Alterations that add more than 40 net square feet of fenestration area shall meet the total fenestration area requirements of section 151(f)3B.

That's all the comments I have. Thank you for considering my comments. If you need clarification on anything, let me know.



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